

Title (en)
Bidirectional input/output circuit

Title (de)
Bidirektionale Eingangs-/Ausgangsschaltung

Title (fr)
Circuit d'entrée/sortie bidirectionnel

Publication
EP 2495877 A3 20140305 (EN)

Application
EP 12157331 A 20120228

Priority
US 201113037866 A 20110301

Abstract (en)
[origin: EP2495877A2] Level-shifting devices and methods allow signals to be passed between input/output (I/O) ports. One such device comprises a first output driver (108) that drives a first I/O port (122) in response to a first control signal (110 out). A second output driver (120) drives a second I/O port (102) in response to a second control signal (116 out). A first comparator circuit (110), responsive to a first reference voltage (Vref1) and a voltage at the first I/O port (122), generates the second control signal. A limiter circuit (106) limits driving of the first I/O port (122), by the first driver (108), to a limiting voltage (Vol) that responsive to a the first I/O port (122) over a first range of signaling voltages, and constrained to a set value over a second range. A voltage reference generating circuit (114) generates a second reference voltage (Vref2). A second comparator circuit (116) generates the first control signal in response to the second reference voltage and the second I/O port (102).

IPC 8 full level
H03K 19/0185 (2006.01)

CPC (source: EP US)
H03K 19/018507 (2013.01 - EP US); **H03K 19/018592** (2013.01 - EP US)

Citation (search report)
• [XA] US 5801549 A 19980901 - CAO TAI ANH [US], et al
• [A] US 2009153193 A1 20090618 - ARANOVSKY ANATOLY [US]
• [A] US 5877633 A 19990302 - NG RICHARD [US], et al
• [A] GB 2308028 A 19970611 - MOTOROLA INC [US]

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2495877 A2 20120905; EP 2495877 A3 20140305; CN 102655407 A 20120905; CN 102655407 B 20150708; US 2012223758 A1 20120906; US 8531228 B2 20130910

DOCDB simple family (application)
EP 12157331 A 20120228; CN 201210047938 A 20120227; US 201113037866 A 20110301